Those interested in plant physiology and plant chemistry will find this little book of great value on account of the many positive facts stated and because of the critical way in which the author has attempted to organize these facts. Some of the hypotheses may be more sweeping than the facts warrant, but they should serve to stimulate work on these important but difficult problems.—CHAS. O. APPLEMAN.

MINOR NOTICES

Michigan trees.—The first thing that recommends this little manual[2] to the student of trees is its convenient pocket size (5 by 7.5 inches), which makes it more readily useful in the field than more pretentious volumes. A closer examination reveals the fact that it is well illustrated by carefully made drawings of the leaves, flowers, buds, and fruit of each species. The keys seem to have been constructed with more than usual care, and are in duplicate, one based largely upon the leaves, for use during summer; and a second making use of the bud and twig characters as a basis of identification during the winter. In order that the bulletin may appeal to as large an assemblage of readers as possible, the use of technical terms has been reduced to a minimum, and those necessarily employed are fully explained in a glossary. The arrangement of drawings and descriptions of species upon pages facing one another adds to the ease with which the manual may be consulted.—GEO. D. FULLER.

NOTES FOR STUDENTS

Mutations and inheritance in Oenothera.—DAVIS[3] has recently reported a continuation of his studies of *Oenothera*. In previous papers[4] he has described the F_1 and F_2 generations of hybrids between *O. biennis* and *O. grandiflora*. The present account deals with the behavior of F_2 and F_3 generations of the same or similar hybrids. The data presented are discussed (1) from the standpoint of their bearing upon the origin and habit of mutation of *O. Lamarckiana*, and (2) with relation to their possible interpretation by Mendelian principles of inheritance. The latter, if one may judge from the methods employed in these studies, has been incidental to the former. The primary purpose of the investigations has been to determine the possibility of the synthesis through hybridization of a type similar in both taxonomic features and mutating habit

---

[2] OTIS, CHARLES H., and BURNS, G. P., Michigan trees. 12mo. pp. xxxii+246. *figs. 120*. Ann Arbor: Univ. Mich. Bull. N.S. **14**: no. 16. 1913.

[3] DAVIS, B. M., The behavior of hybrids between *Oenothera biennis* and *O. grandiflora* in the second and third generations. Amer. Nat. **47**:449–476, 547–571. 1913.

[4] ———, Notes on the behavior of certain hybrids of *Oenothera* in the first generation. Amer. Nat. **44**:108–115. 1910; Some hybrids of *Oenothera biennis* and *O. grandiflora* that resemble *O. Lamarckiana*. Amer. Nat. **45**:193–233. 1911; Further hybrids of *Oenothera biennis* and *O. grandiflora* that resemble *O. Lamarckiana*. Amer. Nat. **46**:377–427. 1912.